

APPARATUS AND METHODS FOR COOLING
SEMICONDUCTOR INTEGRATED CIRCUIT PACKAGE STRUCTURES

Abstract of the Disclosure

Apparatus and methods are provided for thermally
5 coupling a semiconductor chip directly to a heat conducting
device (e.g., a copper heat sink) using a thermal joint that
provides increased thermal conductivity between the heat
conducting device and high power density regions of the
semiconductor chip, while minimizing or eliminating
10 mechanical stress due to the relative displacement due to
the difference in thermal expansion between the
semiconductor chip and the heat conducting device.